
TTTTTTTTTTTTTTT TTTTTTTTTTTTTTT DDDDDDDDDDDD RRRRRRRRRRRR VVV VVV RRRRRRRRRRRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRRRRRRRRRR VVV VVV RRRRRRRRRRR
TTT TTT DDD DDD RRRRRRRRRRR VVV VVV RRRRRRRRRRR
TTT TTT DDD DDD RRRRRRRRRRR VVV VVV RRRRRRRRRRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDD DDD RRR RRR VVV VVV RRR RRR
TTT TTT DDDDDDDDDDDD RRR RRR VVV RRR RRR
TTT TTT DDDDDDDDDDDD RRR RRR VVV RRR RRR
TTT TTT DDDDDDDDDDDD RRR RRR VVV RRR RRR

**FILE**ID**TTYDRVDAT

```
TTTTTTTTTT  TTTTTTTTTT  YY      YY  DDDDDDDD    RRRRRRRR    VV      VV  DDDDDDDD      AAAAAA    TTTTTTTTTT
TTTTTTTTTT  TTTTTTTTTT  YY      YY  DDDDDDDD    RRRRRRRR    VV      VV  DDDDDDDD      AAAAAA    TTTTTTTTTT
   TT          TT       YY      YY  DD      DD  RR      RR  VV      VV  DD      DD   AA      AA      TT
   TT          TT       YY      YY  DD      DD  RR      RR  VV      VV  DD      DD   AA      AA      TT
   TT          TT         YY  YY    DD      DD  RR      RR  VV      VV  DD      DD   AA      AA      TT
   TT          TT         YY  YY    DD      DD  RR      RR  VV      VV  DD      DD   AA      AA      TT
   TT          TT           YY      DD      DD  RRRRRRRR    VV      VV  DD      DD   AA      AA      TT
   TT          TT           YY      DD      DD  RRRRRRRR    VV      VV  DD      DD   AA      AA      TT
   TT          TT           YY      DD      DD  RR   RR     VV      VV  DD      DD   AAAAAAAAAA      TT
   TT          TT           YY      DD      DD  RR   RR     VV      VV  DD      DD   AAAAAAAAAA      TT
   TT          TT           YY      DD      DD  RR    RR     VV  VV     DD      DD   AA      AA      TT      ....
   TT          TT           YY      DD      DD  RR    RR     VV  VV     DD      DD   AA      AA      TT      ....
   TT          TT           YY      DDDDDDDD    RR     RR      VV      DDDDDDDD     AA      AA      TT      ....
   TT          TT           YY      DDDDDDDD    RR     RR      VV      DDDDDDDD     AA      AA      TT      ....

LL             IIIIII      SSSSSSSS
LL             IIIIII      SSSSSSSS
LL               II      SS
LL               II      SS
LL               II      SS
LL               II      SS
LL               II        SSSSSS
LL               II        SSSSSS
LL               II              SS
LL               II              SS
LL               II              SS
LL               II              SS
LLLLLLLLLL     IIIIII    SSSSSSSS
LLLLLLLLLL     IIIIII    SSSSSSSS
```

Table of contents

```
0000     1          .TITLE  TTYDRVDAT - Terminal driver data base module
0000     2          .IDENT  'V04-001'
0000     3
0000     4 ;
0000     5 ;*****************************************************************************
0000     6 ;*                                                                           *
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0000    24 ;*                                                                           *
0000    25 ;*                                                                           *
0000    26 ;*****************************************************************************
0000    27 ;
0000    28 ;++
0000    29 ; FACILITY:
0000    30 ;
0000    31 ;       VAX/VMS TERMINAL DRIVER
0000    32 ;
0000    33 ; ABSTRACT:
0000    34 ;
0000    35 ;       TERMINAL DRIVER DATA BASE
0000    36 ;
0000    37 ; AUTHOR:
0000    38 ;
0000    39 ;       R.HEINEN 14-JUN-1977
0000    40 ;
0000    41 ; Enhancement Revision history:
0000    42 ;
0000    43 ;       V04-001 MIR1100         Michael I. Rosenblum    7-Sep-1984
0000    44 ;               The multinational set in the Type table did not conform
0000    45 ;               to that specified in the VT200 series terminals.
0000    46 ;               This was fixed.
0000    47 ;
0000    48 ;       V03-022 LMP0275         L. Mark Pilant,         12-Jul-1984  21:03
0000    49 ;               Initialize the ACL info in the ORB to be a null descriptor
0000    50 ;               list rather than an empty queue.  This avoids the overhead
0000    51 ;               of locking and unlocking the ACL mutex, only to find out
0000    52 ;               that the ACL was empty.
0000    53 ;
0000    54 ;       V03-021 MIR0450         Michael I. Rosenblum            27-Jun-1984
0000    55 ;               Make the read verify array correspond with that in FMS and
0000    56 ;               TDMS as far as multinational is concerned.
0000    57 ;
```

```
0000     58 ;        V03-020 EMD0098         Ellen M. Dusseault      14-May-1984
0000     59 ;                Add dev$m_nnm characteristic to DEVCHAR2 so that these
0000     60 ;                devices will have the "node$" prefix.
0000     61 ;
0000     62 ;        V03-019 LMP0221         L. Mark Pilant,         7-Apr-1984  13:38
0000     63 ;                Change UCB$L_OWNUIC to ORB$L_OWNER and UCB$W_VPROT to
0000     64 ;                ORB$W_PROT.
0000     65 ;
0000     66 ;        V03-018 RKS0018         RICK SPITZ                      05-MAR-1984
0000     67 ;                Do not set template bit it VTA0 UCB to prevent
0000     68 ;                assign from creating new UCBs when it is referenced.
0000     69 ;
0000     70 ;        V03-017 MIR0310         Michael I. Rosenblum            09-Feb-1984
0000     71 ;                Put a turn off attributes sequence in the DECcrt commands
0000     72 ;                To allow terminals that don't correctly handle Save and
0000     73 ;                Restore to be able to use the new strings.
0000     74 ;
0000     75 ;        V03-016 MIR0300         Michael I. Rosenblum            30-Jan-1984
0000     76 ;                add input fallback table to tables
0000     77 ;                remove recall key.
0000     78 ;
0000     79 ;        V03-015 MIR0080         Michael I. Rosenblum            15-Jul-1983
0000     80 ;                Restructure module and add 8bit support to read verify
0000     81 ;                table.
0000     82 ;
0000     83 ;        V03-014 MIR0051         Michael I. Rosenblum            23-Jun-1983
0000     84 ;                Change defalut lk201 key definitions.
0000     85 ;                Make fallback table smaller and remove the multi character
0000     86 ;                expansions.  Move fallback table into terminal driver generic
0000     87 ;                tables.
0000     88 ;
0000     89 ;        V03-013 RKS0013         RICK SPITZ                      4-JUN-1983
0000     90 ;                Add support for detached terminal template UCB
0000     91 ;
0000     92 ;        V03-012 JLV0256         Jake VanNoy                     23-MAY-1983
0000     93 ;                Add extra pointers to allow table-driven multiecho.
0000     94 ;
0000     95 ;        V03-011 MIR0049         Michael I. Rosenblum            06-May-1983
0000     96 ;                Add fallback presentation table macro.
0000     97 ;
0000     98 ;        V03-010 MIR0030         Michael I. Rosenblum            30-Mar-1983
0000     99 ;                Add Verification array for read verification.   Add eight
0000    100 ;                bit support and common escape escape seqeunce optomization
0000    101 ;                tables.  Also change messages for the echoing control characters
0000    102 ;                to reflect the new lk201 definitions, add dec crt messages
0000    103 ;                and regis messages.  Put in alternate echo string support.
0000    104 ;
0000    105 ;
0000    106 ;        V03-009 MIR0029         Michael I. Rosenblum            21-Mar-1983
0000    107 ;                Add code to handle overstrike mode and non-termination
0000    108 ;                on unusual terminators.
0000    109 ;
0000    110 ;        V03-008 MIR4026         Michael I. Rosenblum            09-Mar-1983
0000    111 ;                Remove character input restriction from the TAB key.
0000    112 ;
0000    113 ;        V03-007 MIR0026         Michael I. Rosenblum            15-Feb-1983
0000    114 ;                Add data to handle the new type of reads.  This includes
```

```
0000   115 ;                   enhancements to the input character dispatcher.
0000   116 ;
0000   117 ;       V03-006 MIR0017         Michael I. Rosenblum            05-Jan-1983
0000   118 ;               Add CLASS_POWERFAIL entry point.
0000   119 ;
0000   120 ;       V03-005 MIR0015         Michael I. Rosenblum            20-Dec-1982
0000   121 ;               Add CLASS_FORK and CLASS_DISCONNECT class entry points.
0000   122 ;
0000   123 ;       V03-004 MIR0013         Michael I. Rosenblum            16-Dec-1982
0000   124 ;               Fix up refferences to new ucb structure
0000   125 ;
0000   126 ;       V03-003 MIR0011         Michael I. Rosenblum            18-Nov-1982
0000   127 ;               Change all strings to be counted strings.
0000   128 ;               Remove all strings for holdscreen.
0000   129 ;               Add TTY$A_ANSI_DEOL which contains the ANSI escape sequence
0000   130 ;               that will go to the beginning of the line and clear to the end
0000   131 ;               of the line.
0000   132 ;
0000   133 ;       V03-002 KDM0002         Kathleen D. Morse       28-Jun-1982
0000   134 ;               Added $DYNDEF.
0000   135 ;
0000   136 ;--
```

```
                        .SBTTL  Declarations

;
; EXTERNAL DEFINITIONS
;
        $DDBDEF                         ; DEFINE DDB OFFSETS
        $DYNDEF                         ; DEFINE DYNAMIC DATA STRUCTURE TYPES
        $IODEF                          ; DEFINE I/O FUNCTION CODES
        $ORBDEF                         ; DEFINE OBJECT'S RIGHTS BLOCK OFFSETS
        $TTYDEF                         ; DEFINE TERMINAL DRIVER SYMBOLS
        $TTDEF                          ; DEFINE TERMINAL CHARACTERISTICS
        $UCBDEF                         ; DEFINE UCB
        $VECDEF                         ; DEFINE VECTOR FOR CRB
        $TTYDEFS                        ; DEFINE TERMINAL DEFINITIONS
00000000        .PSECT  $$$115_DRIVER,LONG
```

```
                     0000   154          .sbttl  autobaud tables
                     0000   155
                     0000   156 TTY$AB_9600::                          ; Table for samples taken at 9600
                     0000   157
          10 7F      0000   158          .BYTE   ^X7F,TT$C_BAUD_19200
          10 7A      0002   159          .BYTE   ^X7A,TT$C_BAUD_19200
          10 72      0004   160          .BYTE   ^X72,TT$C_BAUD_19200
          10 7E      0006   161          .BYTE   ^X7E,TT$C_BAUD_19200
          0F 0D      0008   162          .BYTE   ^X0D,TT$C_BAUD_9600
          0D 66      000A   163          .BYTE   ^X66,TT$C_BAUD_4800
          0C 0C      000C   164          .BYTE   ^X0C,TT$C_BAUD_3600
          0B 78      000E   165          .BYTE   ^X78,TT$C_BAUD_2400
          09 70      0010   166          .BYTE   ^X70,TT$C_BAUD_1800
          08 00      0012   167          .BYTE   ^X00,TT$C_BAUD_1200
            FF FF    0014   168          .BYTE   -1,-1                   ; End of list
    00000026       0016   169          .BLKB   16                      ; Patch space
                     0026   170
                     0026   171 TTY$AB_600::                           ; Table for samples taken at 600
                     0026   172
          08 7E      0026   173          .BYTE   ^X7E,TT$C_BAUD_1200
          08 72      0028   174          .BYTE   ^X72,TT$C_BAUD_1200
          07 0D      002A   175          .BYTE   ^X0D,TT$C_BAUD_600
          06 66      002C   176          .BYTE   ^X66,TT$C_BAUD_300
          05 78      002E   177          .BYTE   ^X78,TT$C_BAUD_150
          03 60      0030   178          .BYTE   ^X60,TT$C_BAUD_110
          03 70      0032   179          .BYTE   ^X70,TT$C_BAUD_110
            FF FF    0034   180          .BYTE   -1,-1                   ; End of list
    00000046       0036   181          .BLKB   16                      ; Patch space
                     0046   182
```

```
0046   184          .SBTTL  CHARACTER DISPATCH TABLE - MACROS
0046   185 ;++
0046   186 ; $DISINI
0046   187 ;
0046   188 ; DESCRIPTION:
0046   189 ;       SETS UP A 256 BYTE TABLE TO ALLOW A QUICK DISPATCH ON INPUT CHARACTERS
0046   190 ;
0046   191 ; INPUTS:
0046   192 ;       NONE
0046   193 ;--
0046   194
0046   195          .MACRO  $DISINI
0046   196 $$$=.
0046   197 .REPEAT 32
0046   198          .BYTE   TTY$K_ET_UNUSED
0046   199 .ENDR
0046   200          .BLKB   256-32
0046   201 $$$$=.
0046   202          .ENDM   $DISINI
```

```
0046   204 ;++
0046   205 ; $DIS
0046   206 ;
0046   207 ; DESCRIPTION:
0046   208 ;       GIVEN A LIST OF CHARACTERS WILL FILL EACH OF THEIR BYTES WITH
0046   209 ; THE CHARACTER DISPATCH TOKEN THAT THIS CHARACTER TRANSLATES TO.
0046   210 ;
0046   211 ; INPUTS:
0046   212 ;       CHARLIST = A LIST OF CHARACTERS TO FILL WITH THIS TOKEN
0046   213 ;       TOKEN = THE TOKEN CHARACTER.  ONE OF THE FOLLOWING:
0046   214 ;                               1       CONTROL-U
0046   215 ;                               2       CONTROL-R
0046   216 ;                               3       DEL
0046   217 ;                               4       ESCAPE CHARACTER
0046   218 ;                               5       BACKWARD 1 CHAR
0046   219 ;                               6       FORWARD 1 CHAR
0046   220 ;                               7       END OF LINE
0046   221 ;                               8       BEGINNING OF LINE
0046   222 ;                               9       DELETE WORD LEFT
0046   223 ;--
0046   224         .MACRO  $DIS    CHARLIST,TOKEN
0046   225 .IRP    CHAR,CHARLIST
0046   226         .=$$$+CHAR
0046   227         .BYTE   TOKEN
0046   228 .ENDR
0046   229         .ENDM   $DIS
0046   230
0046   231 ;++
0046   232 ; $DISEND
0046   233 ;
0046   234 ; DESCRIPTIONS
0046   235 ;       PUTS THE END ON THE CHARACTER DISPATCH TABLE
0046   236 ;--
0046   237         .MACRO  $DISEND
0046   238         .=$$$$
0046   239         .ENDM   $DISEND
```

```
                                                I 13
                     0046   241          .SBTTL  CHARACTER DISPATCH TABLE
0000008E             0046   242 TTY$C_SS2=^X8E
0000008F             0046   243 TTY$C_SS3=^X8F
                     0046   244 TTY$A_CCLIST::
                     0046   245          $DISINI
                     0146   246          $DIS    TTY$C_CTRLU,TTY$K_ET_CTRLU
                     005C   247          $DIS    TTY$C_CTRLR,TTY$K_ET_CTRLR
                     0059   248          $DIS    TTY$C_DELETE,TTY$K_ET_DELEFT
                     00C6   249          $DIS    <TTY$C_CSI,TTY$C_ESCAPE,TTY$C_LOWESC1,TTY$C_LOWESC2>,TTY$K_ET_ESCAPE
                     00C5   250          $DIS    <TTY$C_SS2,TTY$C_SS3>,TTY$K_ET_ESCAPE
                     00D6   251          $DIS    TTY$C_CTRLD,TTY$K_ET_BACK_CHAR
                     004B   252          $DIS    TTY$C_CTRLF,TTY$K_ET_FORWARD_CHAR
                     004D   253          $DIS    TTY$C_CTRLE,TTY$K_ET_MOVE_EOL
                     004C   254          $DIS    TTY$C_BS,TTY$K_ET_MOVE_BOL
                     004F   255          $DIS    TTY$C_CTRLV,TTY$K_ET_QUOTING
                     005D   256          $DIS    TTY$C_LF,TTY$K_ET_DELETE_WORD
                     0051   257          $DIS    TTY$C_CTRLB,TTY$K_ET_RECALL
                     0049   258          $DIS    TTY$C_TAB,0             ; ALLOW TAB EVEN IF NOT A TERMINATOR
                     0050   259          $DIS    <TTY$C_CR,TTY$C_CTRLZ>,TTY$K_ET_TERMINATE; TERMIANATE THE READ
                     0061   260          $DIS    TTY$C_CTRLA,TTY$K_ET_TOGGEL     ; TOGGEL INSERT/OVERSTRIKE MODE
                     0048   261          $DISEND
```

```
                                                J 13
0146   263          .SBTTL  CHARACTER TYPE TABLE MACRO
0146   264 ;++
0146   265 ; TYPE - TYPE TABLE MACRO GENERATOR
0146   266 ;
0146   267 ; Description:
0146   268 ;
0146   269 ;       The type table is used by the character output routines to determine
0146   270 ; several things, whether the character is a spaceing or non spaceing character,
0146   271 ; If this character needs specail attention pre or post typeahead, and if
0146   272 ; this character is lower case.
0146   273 ;
0146   274 ;       The table is a table of bytes.  The lower nibble is a count of
0146   275 ; the occurance of this type of entry, and the high order nibbel is a set
0146   276 ; of flags.
0146   277 ;
0146   278 ; Inputs:
0146   279 ;       Type - one of SPEC, CONTROL, CTRL2, CTRL3, LOWER
0146   280 ;--
0146   281          .MACRO  TYPE    TYP
0146   282          Y=0
0146   283          .IF     NB      TYP
0146   284          Y=XY'TYP
0146   285          XY'TYP=1+XY'TYP
0146   286          .IF     IDN     CONTROL,TYP
0146   287          Y=Y!<TTY$M_CH_CTRL>
0146   288          .ENDC
0146   289          .IF     IDN     SPEC,TYP
0146   290          Y=Y!<TTY$M_CH_SPEC>
0146   291          .ENDC
0146   292          .IF     IDN     CTRL2,TYP
0146   293          Y=Y!<TTY$M_CH_CTRL2>
0146   294          .ENDC
0146   295          .IF     IDN     CTRL3,TYP
0146   296          Y=<TTY$M_CH_CTRL3>
0146   297          .ENDC
0146   298          .IF     IDN     LOWER,TYP
0146   299          Y=<TTY$M_CH_LOWER>
0146   300          .ENDC
0146   301          .ENDC
0146   302          .IF     GE      CHAR-97
0146   303          .IF     LE      CHAR-97-25
0146   304          Y=<TTY$M_CH_LOWER>
0146   305          .ENDC
0146   306          .ENDC
0146   307          .BYTE   Y
0146   308          CHAR=CHAR+1
0146   309          .ENDM
0146   310 ;
0146   311 ; INITIALIZE COUNTS
0146   312 ;
00000000  0146   313 CHAR=0
00000000  0146   314 XYSPEC=0
00000000  0146   315 XYCONTROL=0
00000000  0146   316 XYCTRL2=0
00000000  0146   317 XYCTRL3=0
00000000  0146   318 XYLOWER=0
```

```
                     .SBTTL  CHARACTER TYPE TABLE

TTY$A_TYPE::
                     TYPE    CTRL3                   ; NULL
                     TYPE    CTRL3                   ; CONTROL A
                     TYPE    CTRL3                   ; CONTROL B
                     TYPE    CONTROL                 ; CONTROL C
                     TYPE    CTRL3                   ; CONTROL D
                     TYPE    CTRL3                   ; CONTROL E
                     TYPE    CTRL3                   ; CONTROL F
                     TYPE    CTRL3                   ; BELL CONTROL G
                     TYPE    SPEC                    ; BACKSPACE
                     TYPE    SPEC                    ; TAB
                     TYPE    SPEC                    ; LINE FEED
                     TYPE    SPEC                    ; VERTICLE TAB
                     TYPE    SPEC                    ; FORM FEED
                     TYPE    SPEC                    ; CARRIAGE RETURN
                     TYPE    CTRL3                   ; CONTROL N
                     TYPE    CONTROL                 ; CONTROL O
                     TYPE    CTRL3                   ; CONTROL P
                     TYPE    CONTROL                 ; CONTROL Q
                     TYPE    CTRL2                   ; CONTROL R
                     TYPE    CONTROL                 ; CONTROL S
                     TYPE    CTRL3                   ; CONTROL T
                     TYPE    CTRL2                   ; CONTROL U
                     TYPE    CTRL3                   ; CONTROL V
                     TYPE    CTRL3                   ; CONTROL W
                     TYPE    CONTROL                 ; CONTROL X
                     TYPE    CONTROL                 ; CONTROL Y
                     TYPE    SPEC                    ; CONTROL Z
                     TYPE    CONTROL                 ; ESCAPE
                     TYPE    CTRL3
                     TYPE    CTRL3
                     TYPE    CTRL3
                     TYPE    CTRL3

                     TYPE                            ; SPACE
                     TYPE                            ; !
                     TYPE                            ; "
                     TYPE                            ; #
                     TYPE                            ; $
                     TYPE                            ; %
                     TYPE                            ; &
                     TYPE                            ; '
                     TYPE                            ; (
                     TYPE                            ; )
                     TYPE                            ; *
                     TYPE                            ; +
                     TYPE                            ; ,
                     TYPE                            ; -
                     TYPE                            ; .
                     TYPE                            ; /
                     TYPE                            ; 0
                     TYPE                            ; 1
                     TYPE                            ; 2
                     TYPE                            ; 3
                     TYPE                            ; 4
                     TYPE                            ; 5
```

```
017C    377         TYPE                    ;  6
017D    378         TYPE                    ;  7
017E    379         TYPE                    ;  8
017F    380         TYPE                    ;  9
0180    381         TYPE                    ;  :
0181    382         TYPE                    ;  ;
0182    383         TYPE                    ;  <
0183    384         TYPE                    ;  =
0184    385         TYPE                    ;  >
0185    386         TYPE                    ;  ?
0186    387         TYPE                    ;  @
0187    388         TYPE                    ;  A
0188    389         TYPE                    ;  B
0189    390         TYPE                    ;  C
018A    391         TYPE                    ;  D
018B    392         TYPE                    ;  E
018C    393         TYPE                    ;  F
018D    394         TYPE                    ;  G
018E    395         TYPE                    ;  H
018F    396         TYPE                    ;  I
0190    397         TYPE                    ;  J
0191    398         TYPE                    ;  K
0192    399         TYPE                    ;  L
0193    400         TYPE                    ;  M
0194    401         TYPE                    ;  N
0195    402         TYPE                    ;  O
0196    403         TYPE                    ;  P
0197    404         TYPE                    ;  Q
0198    405         TYPE                    ;  R
0199    406         TYPE                    ;  S
019A    407         TYPE                    ;  T
019B    408         TYPE                    ;  U
019C    409         TYPE                    ;  V
019D    410         TYPE                    ;  W
019E    411         TYPE                    ;  X
019F    412         TYPE                    ;  Y
01A0    413         TYPE                    ;  Z
01A1    414         TYPE                    ;  [
01A2    415         TYPE                    ;  \
01A3    416         TYPE                    ;  ]
01A4    417         TYPE                    ;  ^
01A5    418         TYPE                    ;
01A6    419         TYPE                    ;  ELISPE
01A7    420         TYPE                    ;  LOWER A
01A8    421         TYPE                    ;  LOWER B
01A9    422         TYPE                    ;  LOWER C
01AA    423         TYPE                    ;  LOWER D
01AB    424         TYPE                    ;  LOWER E
01AC    425         TYPE                    ;  LOWER F
01AD    426         TYPE                    ;  LOWER G
01AE    427         TYPE                    ;  LOWER H
01AF    428         TYPE                    ;  LOWER I
01B0    429         TYPE                    ;  LOWER J
01B1    430         TYPE                    ;  LOWER K
01B2    431         TYPE                    ;  LOWER L
01B3    432         TYPE                    ;  LOWER M
01B4    433         TYPE                    ;  LOWER N
```

```
                                                                M 13
01B5    434          TYPE                                ; LOWER O
01B6    435          TYPE                                ; LOWER P
01B7    436          TYPE                                ; LOWER Q
01B8    437          TYPE                                ; LOWER R
01B9    438          TYPE                                ; LOWER S
01BA    439          TYPE                                ; LOWER T
01BB    440          TYPE                                ; LOWER U
01BC    441          TYPE                                ; LOWER V
01BD    442          TYPE                                ; LOWER W
01BE    443          TYPE                                ; LOWER X
01BF    444          TYPE                                ; LOWER Y
01C0    445          TYPE                                ; LOWER Z
01C1    446          TYPE                                ; CURRLY LEFT
01C2    447          TYPE                                ; UP LINE
01C3    448          TYPE                                ; CURRLY RIGHT
01C4    449          TYPE                                ; WIGGLE
01C5    450          TYPE    CTRL2                       ; DELETE
01C6    451
01C6    452
01C6    453 ;
01C6    454 ; B BIT CHARACTERS
01C6    455 ;
01C6    456
01C6    457          TYPE    CTRL3                       ; RESERVED
01C7    458          TYPE    CTRL3                       ; RESERVED
01C8    459          TYPE    CTRL3                       ; RESERVED
01C9    460          TYPE    CTRL3                       ; RESERVED
01CA    461          TYPE    CTRL3                       ; IND
01CB    462          TYPE    CTRL3                       ; NEL
01CC    463          TYPE    CTRL3                       ; SSA
01CD    464          TYPE    CTRL3                       ; ESA
01CE    465          TYPE    CTRL3                       ; HTS
01CF    466          TYPE    CTRL3                       ; HTJ
01D0    467          TYPE    CTRL3                       ; VTS
01D1    468          TYPE    CTRL3                       ; PLD
01D2    469          TYPE    CTRL3                       ; PLU
01D3    470          TYPE    CTRL3                       ; RI
01D4    471          TYPE    CTRL3                       ; SS2
01D5    472          TYPE    CTRL3                       ; SS3
01D6    473          TYPE    CTRL3                       ; DCS
01D7    474          TYPE    CTRL3                       ; PU1
01D8    475          TYPE    CTRL3                       ; PU2
01D9    476          TYPE    CTRL3                       ; STS
01DA    477          TYPE    CTRL3                       ; CCH
01DB    478          TYPE    CTRL3                       ; MW
01DC    479          TYPE    CTRL3                       ; SPA
01DD    480          TYPE    CTRL3                       ; EPA
01DE    481          TYPE    CTRL3                       ; RESERVED
01DF    482          TYPE    CTRL3                       ; RESERVED
01E0    483          TYPE    CTRL3                       ; RESERVED
01E1    484          TYPE    CONTROL                     ; CSI IS A CONTROL
01E2    485          TYPE    CTRL3                       ; ST
01E3    486          TYPE    CTRL3                       ; OSC
01E4    487          TYPE    CTRL3                       ; PM
01E5    488          TYPE    CTRL3                       ; APC
01E6    489          TYPE                                ; RESERVED
01E7    490          TYPE                                ; INVERTED EXCLAATION
```

```
01E8    491         TYPE                    ; CENT
01E9    492         TYPE                    ; POUND
01EA    493         TYPE                    ; RESERVED
01EB    494         TYPE                    ; YEN
01EC    495         TYPE                    ; RESERVED
01ED    496         TYPE                    ; SECTION
01EE    497         TYPE                    ; CURRENCY
01EF    498         TYPE                    ; COPYRIGHT
01F0    499         TYPE                    ; FEMINANE ORDINAL
01F1    500         TYPE                    ; LEFT ANGLE QUOTE
01F2    501         TYPE                    ; RESERVED
01F3    502         TYPE                    ; RESERVED
01F4    503         TYPE                    ; RESERVED
01F5    504         TYPE                    ; RESERVED
01F6    505         TYPE                    ; DEGREE
01F7    506         TYPE                    ; PLUS/MINUS
01F8    507         TYPE                    ; SUPER 2
01F9    508         TYPE                    ; SUPER 3
01FA    509         TYPE                    ; RESERVED
01FB    510         TYPE                    ; MICRO
01FC    511         TYPE                    ; PARAGRAPH
01FD    512         TYPE                    ; MIDDLE DOT
01FE    513         TYPE                    ; RESERVED
01FF    514         TYPE                    ; SUPER 1
0200    515         TYPE                    ; MASCULINE ORDINAL
0201    516         TYPE                    ; ALGLE QUOTE RIGHT
0202    517         TYPE                    ; 1/4
0203    518         TYPE                    ; 1/2
0204    519         TYPE                    ; RESERVED
0205    520         TYPE                    ; INVERTED ?
0206    521         TYPE                    ; CAP A GRAVE
0207    522         TYPE                    ; CAP A ACUTE
0208    523         TYPE                    ; CAP A CERC
0209    524         TYPE                    ; CAP A TILDE
020A    525         TYPE                    ; CAP A DIAERESSIS OR UMLAUT
020B    526         TYPE                    ; CAP A WITH RING
020C    527         TYPE                    ; AE DIPTHONG
020D    528         TYPE                    ; C CEDILLA
020E    529         TYPE                    ; CAP E GRAVE
020F    530         TYPE                    ; CAP E ACUTE
0210    531         TYPE                    ; CAP E CERC
0211    532         TYPE                    ; CAP E DIAERESSIS OR UMLAUT
0212    533         TYPE                    ; I GRAVE
0213    534         TYPE                    ; I ACCUTE
0214    535         TYPE                    ; I CIRC
0215    536         TYPE                    ; I UMLAUT
0216    537         TYPE                    ;  RESERVED
0217    538         TYPE                    ; N TILDE
0218    539         TYPE                    ; CAP O GRAVE
0219    540         TYPE                    ; CAP O ACUTE
021A    541         TYPE                    ; CAP O CERC
021B    542         TYPE                    ; CAP O TILDE
021C    543         TYPE                    ; CAP O DIAERESSIS OR UMLAUT
021D    544         TYPE                    ; OE
021E    545         TYPE                    ; O WITH SLASH
021F    546         TYPE                    ; U GRAVE
0220    547         TYPE                    ; U ACCUTE
```

```
0221    548          TYPE                            ; U CIRC
0222    549          TYPE                            ; U UMLAUT
0223    550          TYPE                            ; Y WITH DIAERESIS OR UMLAUT
0224    551          TYPE                            ;  RESREVED
0225    552          TYPE                            ; SMALL SHARP S
0226    553 ;
0226    554 ; LOWER CASE EIGHT BIT CHARACTERS
0226    555 ;
0226    556          TYPE    LOWER                   ; LOWER A GRAVE
0227    557          TYPE    LOWER                   ; LOWER A ACUTE
0228    558          TYPE    LOWER                   ; LOWER A CERC
0229    559          TYPE    LOWER                   ; LOWER A TILDE
022A    560          TYPE    LOWER                   ; LOWER A DIAERESSIS OR UMLAUT
022B    561          TYPE    LOWER                   ; LOWER A WITH RING
022C    562          TYPE    LOWER                   ; AE DIPTHONG
022D    563          TYPE    LOWER                   ; C CEDILLA
022E    564          TYPE    LOWER                   ; e GRAVE
022F    565          TYPE    LOWER                   ; e ACCUTE
0230    566          TYPE    LOWER                   ; e CIRC
0231    567          TYPE    LOWER                   ; e UMLAUT
0232    568          TYPE    LOWER                   ; I GRAVE
0233    569          TYPE    LOWER                   ; I ACCUTE
0234    570          TYPE    LOWER                   ; I CIRC
0235    571          TYPE    LOWER                   ; I UMLAUT
0236    572          TYPE                            ;  RESERVED
0237    573          TYPE    LOWER                   ; N TILDE
0238    574          TYPE    LOWER                   ; LOWER O GRAVE
0239    575          TYPE    LOWER                   ; LOWER O ACUTE
023A    576          TYPE    LOWER                   ; LOWER O CERC
023B    577          TYPE    LOWER                   ; LOWER O TILDE
023C    578          TYPE    LOWER                   ; LOWER O DIAERESSIS OR UMLAUT
023D    579          TYPE    LOWER                   ; OE
023E    580          TYPE    LOWER                   ; O WITH SLASH
023F    581          TYPE    LOWER                   ; U GRAVE
0240    582          TYPE    LOWER                   ; U ACCUTE
0241    583          TYPE    LOWER                   ; U CIRC
0242    584          TYPE    LOWER                   ; U UMLAUT
0243    585          TYPE    LOWER                   ; Y WITH DIAERESIS OR UMLAUT
0244    586          TYPE                            ;  RESREVED
0245    587          TYPE                            ;  RESERVED
```

```
                                                C 14
                     0246   589
                     0246   590          .SBTTL  ESCAPE SEQUENCE TO TOKEN TRANSLATION TABLE
                     0246   591 interrupt_key::
7E 37 31 5B 1B       0246   592          .ASCII  <TTY$C_ESCAPE>/[17~/    ; OS interupt key
        00000005     024B   593 interrupt_key_len==.-interrupt_key
                     024B   594
                     024B   595 TTY$A_FCNTKN::
        0000025D     024B   596          .BLKB   18                      ; 0 - 18 AREN'T DEFINED
              0D     025D   597          .BYTE   TTY$K_ET_UNUSED         ; 18
              0D     025E   598          .BYTE   TTY$K_ET_UNUSED         ; 19
              0D     025F   599          .BYTE   TTY$K_ET_UNUSED         ; 20
              00     0260   600          .BYTE   0                       ; 21 EXIT KEY
              00     0261   601          .BYTE   0                       ; 22 IS UNDEFINED
              0D     0262   602          .BYTE   TTY$K_ET_UNUSED         ; 23
              08     0263   603          .BYTE   TTY$K_ET_MOVE_BOL       ; 24
              09     0264   604          .BYTE   TTY$K_ET_DELETE_WORD    ; 25
              0C     0265   605          .BYTE   TTY$K_ET_TOGGEL         ; 26
        0000001B     0266   606 TTY$K_MAXESCTKN==.-TTY$A_FCNTKN
```

```
                                                D 14
                     0266   608          .SBTTL  ESCAPE SYNTAX TABLE
                     0266   609 ;
                     0266   610 ; ESCAPE SYNTAX TABLE
                     0266   611 ;
                     0266   612 TTY$A_ESCAPE::                          ; ESCAPE SYNTAX TABLE
                     0266   613 ;
                     0266   614 ; ESCAPE SEQUENCE <ESC><;><32:47>....<48:126>
                     0266   615 ;
                3B 3B 0266   616          .ASCII  /;;/                   ; ";"
                   0F' 0268   617          .BYTE   10$-TTY$A_ESCAPE       ;
                     0269   618 ;
                     0269   619 ; ESCAPE SEQUENCE <ESC><?><32:47>....<48:126>
                     0269   620 ;
                3F 3F 0269   621          .ASCII  /??/                   ; "?"
                   0F' 026B   622          .BYTE   10$-TTY$A_ESCAPE       ;
                     026C   623 ;
                     026C   624 ; ESCAPE SEQUENCE <ESC><O><32:47>....<64:126>
                     026C   625 ;
                4F 4F 026C   626          .ASCII  /OO/                   ; "O"
                   18' 026E   627          .BYTE   20$-TTY$A_ESCAPE       ;
                     026F   628 ;
                     026F   629 ; ESCAPE SEQUENCE <ESC><Y><32:126><32:126>
                     026F   630 ;
                59 59 026F   631          .ASCII  /YY/                   ; "Y"
                   1E' 0271   632          .BYTE   30$-TTY$A_ESCAPE       ;
                     0272   633 ;
                     0272   634 ; ANSI CONTROL SEQUENCES <ESC><[><48:63>...<32:47>...<64:126>
                     0272   635 ;
                5B 5B 0272   636          .ASCII  /[[/                   ; "["
                   15' 0274   637          .BYTE   15$-TTY$A_ESCAPE
                     0275   638
                     0275   639 ;
                     0275   640 ; ESCAPE SEQUENCE <ESC><32:47>....<48:126>
                     0275   641 ;
            0000000F 0275   642 TTY$K_SS2==.-TTY$A_ESCAPE
               2F 20 0275   643 10$:     .ASCII  ! 7!                   ; SPACE TO "/"
                  0F 0277   644          .BYTE   10$-TTY$A_ESCAPE       ; INTERMEDIATE CHARACTER
               7E 30 0278   645          .ASCII  /0/<126>               ; "0" TO END
                  00 027A   646          .BYTE   0                      ; FINAL
            00000015 027B   647 TTY$K_CSI==.-TTY$A_ESCAPE              ; CSI PREFEXES THE FOLLOWING
               3F 30 027B   648 15$:     .ASCII  /0?/                   ; "0" TO "?"
                  15 027D   649          .BYTE   15$-TTY$A_ESCAPE
            00000018 027E   650 TTY$K_SS3==.-TTY$A_ESCAPE
               2F 20 027E   651 20$:     .ASCII  ! 7!                   ; SPACE TO "/"
                  18 0280   652          .BYTE   20$-TTY$A_ESCAPE
               7E 40 0281   653          .ASCII  /@/<126>               ; "@" TO END
                  00 0283   654          .BYTE   0                      ; END OF ESC O.
               7E 20 0284   655 30$:     .ASCII  ! !<126>               ; SPACE TO END
                  21' 0286   656          .BYTE   40$-TTY$A_ESCAPE
               7E 20 0287   657 40$:     .ASCII  ! !<126>               ;
                  00 0289   658          .BYTE   0                      ;
                     028A   659 ;
                     028A   660 ; ESCAPE SEQUENCES WITH MEANING FOR OUTPUT
                     028A   661 ;
                     028A   662 ; THERE IS A CORRELATION BETWEEN THIS TABLE AND CODE!
                     028A   663 ;
                     028A   664 TTY$A_ESC_OUT::
```

```
5A 4B 47 46 59 49 48 44 43 42 41 00' 028A   665          .ASCIC  /ABCDHIYFGKZ>=\[/                ;
                                  5B 5C 3D 3E  0296
                                     0F  028A
```

```
                     029A   667 ;
                     029A   668 ; 8bit C1 input code to C0 code trantion table
                     029A   669 ;
                     029A   670 TTY$A_8BITESC::
000002A7             029A   671          .BLKB   13                      ; MOVE TO SS2
          4E         02A7   672          .BYTE   ^A/N/                   ; SS2
          4F         02A8   673          .BYTE   ^A/O/                   ; SS3
000002B5             02A9   674          .BLKB   12                      ; MOVE TO CSI
          5B         02B5   675          .BYTE   ^A/[/                   ; CSI
000002BA             02B6   676          .BLKB   4                       ; FILL OUT THE TABLE
```

```
                     02BA    678 ;
                     02BA    679 ; ESCAPE SEQUENCE RULE INITIALIZATION TABLE
                     02BA    680 ;
                     02BA    681 TTY$A_ESCINIT::
000002C7             02BA    682             .BLKB   13                      ; MOVE TO SS2
          0F         02C7    683             .BYTE   TTY$K_SS2               ; SS2
          18         02C8    684             .BYTE   TTY$K_SS3               ; SS3
000002D5             02C9    685             .BLKB   12                      ; MOVE TO CSI
          15         02D5    686             .BYTE   TTY$K_CSI               ; CSI
000002DA             02D6    687             .BLKB   4                       ; FILL OUT THE TABLE
```

```
02DA    689          .SBTTL  FALLBACK - table that will create fallback presentation
02DA    690 ;++
02DA    691 ;FALLBACK - TABLE TO ALLOW THE TERMINAL TO DO FALLBACK PRESENTATION OF
02DA    692 ;           8BIT CHARACTERS on 7 bit terminals
02DA    693 ;
02DA    694 ; Description:
02DA    695 ;       The following macros generate 3 tables.  The first is a 256 byte
02DA    696 ; table with the single character fallback representation of all the
02DA    697 ; characters that can be represented by a single character, those with
02DA    698 ; no fallback presentation at all are represented by the _ character,
02DA    699 ; those with multiple character representation have a 0 in there position.
02DA    700 ; The second table is a list of counted strings containing the characters
02DA    701 ; for all the characters that have multiple character fallback representation.
02DA    702 ; The third table is a 96 byte table that contains the offsets into the
02DA    703 ; second table of the counted string for the given character.  The base
02DA    704 ; of the third table is the first 8 bit printing character
02DA    705 ;
02DA    706 ;--
02DA    707          .macro  $fallini
02DA    708 $$=0
02DA    709 .repeat 256
02DA    710 .IF LE $$-<^X9F>          ; EVERYTHING BUT THE MULTINATIONAL SET SHOULD
02DA    711                          ; ECHO AS ITSELF.
02DA    712          .byte $$
02DA    713 .IFF
02DA    714          .BYTE ^A/_/
02DA    715 .ENDC
02DA    716 $$=$$+1
02DA    717 .endr
02DA    718 $$$=.
02DA    719 .SAVE
02DA    720          .PSECT  $$$115_TTDRVR_EXPTAB
02DA    721 EXPTAB:
02DA    722 .REPEAT 96
02DA    723          .BYTE   0
02DA    724 .ENDR
02DA    725 TT_END=.
02DA    726          .PSECT  $$$115_TTDRVR_EXPAN
02DA    727 EXPAN:
02DA    728 .RESTORE
02DA    729
02DA    730          .endm   $fallini
```

```
02DA    732 ;++
02DA    733 ; $FALL - generates the table entry for a given character
02DA    734 ;
02DA    735 ; Inputs:
02DA    736 ;
02DA    737 ;       CHARH - COLUMN IN THE ASCII TABLE.
02DA    738 ;       CHARL - ROW IN THE ASCII TABLE.
02DA    739 ;       FALLBACK - String that is the fallback representation
02DA    740 ;       COUNT - Number of times to repeat this character
02DA    741 ;--
02DA    742         .MACRO  $FALL   CHARH,CHARL,FALLBACK,COUNT=1
02DA    743 .=FALLTAB+<CHARH*16>+CHARL
02DA    744 .REPEAT COUNT
02DA    745 .NCHR   SLEN,^\FALLBACK\
02DA    746 .IF EQ  SLEN-1
02DA    747         .BYTE   ^A/FALLBACK/
02DA    748 .IFF
02DA    749         .BYTE   255
02DA    750 .SAVE
02DA    751         .PSECT  $$$115_TTDRVR_EXPAN
02DA    752 $$EXP=.-EXPAN
02DA    753         .ASCIC  !FALLBACK!
02DA    754         .PSECT  $$$115_TTDRVR_EXPTAB
02DA    755 .=EXPTAB+<CHARH*16>+CHARL-150
02DA    756         .BYTE   $$EXP
02DA    757 .RESTORE
02DA    758 .ENDC
02DA    759 .ENDR
02DA    760         .ENDM   $FALL
```

```
                        ;++
                        ; $FALLEND - GENERATES END CONDITIONS FOR THE FALLBACK TABLE
                        ;
                        ; Description:
                        ;
                        ;       Resets the . to the end of the fallback table
                        ;
                        ; Inputs:
                        ;
                        ;       None
                        ;--
                        .MACRO  $FALLEND
                .=$$$
                        .ENDM   $FALLEND
```

```
                        ;777
02DA    778 FALLTAB:
02DA    779             $FALLINI
03DA    780             $FALL   10,1,!
037C    781             $FALL   10,2,c
037D    782             $FALL   10,3,L
037E    783             $FALL   10,5,Y
0380    784 ;           $FALL   10,7,Sc
0380    785             $FALL   10,8,0
0383    786 ;           $FALL   10,9,(C)
0383    787             $FALL   10,10,a
0385    788 ;           $FALL   10,11,^!<<!
0385    789             $FALL   11,0,o
038B    790             $FALL   11,1,+
038C    791             $FALL   11,2,2
038D    792             $FALL   11,3,3
038E    793             $FALL   11,5,u
0390    794 ;           $FALL   11,6,Pr
0390    795             $FALL   11,7,.
0392    796             $FALL   11,9,1
0394    797             $FALL   11,10,o
0395    798 ;           $FALL   11,11,^!>>!
0395    799 ;           $FALL   11,12,<1/4>
0395    800 ;           $FALL   11,13,<1/2>
0395    801             $FALL   11,15,?
039A    802             $FALL   12,0,A,6
03A0    803 ;           $FALL   12,6,AE
03A0    804             $FALL   12,7,C
03A2    805             $FALL   12,8,E,4
03A6    806             $FALL   12,12,I,4
03AA    807             $FALL   13,1,N
03AC    808             $FALL   13,2,O,5
03B1    809 ;           $FALL   13,7,OE
03B1    810             $FALL   13,8,O
03B3    811             $FALL   13,9,U,4
03B7    812             $FALL   13,13,Y
03B8    813 ;           $FALL   13,15,ss
03B8    814             $FALL   14,0,a,6
03C0    815 ;           $FALL   14,6,ae
03C0    816             $FALL   14,7,c
03C2    817             $FALL   14,8,e,4
03C6    818             $FALL   14,12,i,4
03CA    819             $FALL   15,1,n
03CC    820             $FALL   15,2,o,5
03D1    821 ;           $FALL   15,7,oe
03D1    822             $FALL   15,8,o
03D3    823             $FALL   15,9,u,4
03D7    824             $FALL   15,13,y
03D8    825             $FALLEND
03DA    826
```

03DA 828

```
                                                M 14
                     03DA   830          .SBTTL  TERMINATOR BITMASK FOR STANDARD SET
                     03DA   831 ;
                     03DA   832 ;
                     03DA   833 ;
                     03DA   834 TTY$A_STANDARD::
                 FFFFE0FF  03DA   835                  .LONG   ^X0FFFFE0FF             ; BS,TAB,LF,VT,FORM NOT TERMS
80000000 00000000 00000000  03DE   836                  .LONG   0,0,^X80000000          ; AND DELETE
                 FFFFE0FF  03EA   837                  .LONG   ^X0FFFFE0FF             ;
80000000 00000000 00000000  03EE   838                  .LONG   0,0,^X80000000
```

```
                     03FA    840          .SBTTL  WORD TERMINATOR BIT MASK MACRO AND TABLE
                     03FA    841 ;
                     03FA    842 ; This is the default word terminator bitmask, this table is used
                     03FA    843 ; by the delete word routine to determine when a word ends.
                     03FA    844 ;
                     03FA    845 TTY$A_WORDTERM::
FFFFFFFF             03FA    846          .LONG   -1                              ; ALL THE CONTROL CHARACTERS
FC00FBDF             03FE    847          .LONG   ^B11111100000000001111101111011111; ALL THE SPECAILS EXCEPT THE DIGI
38000001             0402    848          .LONG   ^B00111000000000000000000000000001; THE UPPER CASE LETTERS AREN'T TE
B8000001             0406    849          .LONG   ^B10111000000000000000000000000001; THE LOWER CASE LETTERS AREN'T EI
                     040A    850 ; duplicate for the eight bit set
FFFFFFFF             040A    851          .LONG   -1                              ; ALL THE CONTROL CHARACTERS
FC00FFFF             040E    852          .LONG   ^B11111100000000001111111111111111; ALL THE SPECAILS EXCEPT THE DIGI
38000001             0412    853          .LONG   ^B00111000000000000000000000000001; THE UPPER CASE LETTERS AREN'T TE
B8000001             0416    854          .LONG   ^B10111000000000000000000000000001; THE LOWER CASE LETTERS AREN'T EI
                     041A    855 ;
                     041A    856 ; There are certain characters which are  to be considered words on there
                     041A    857 ; own (characters like the = which are delimeters) this table contains
                     041A    858 ; the bits for those characters.
                     041A    859 ;
                     041A    860 TTY$A_PREFIX::
00000000             041A    861          .LONG   0                               ; ALL THE CONTROL CHARACTERS
10008208             041E    862          .LONG   ^B00010000000000001000001000001000;
08000001             0422    863          .LONG   ^B00001000000000000000000000000001; THE UPPER CASE LETTERS AREN'T TE
08000000             0426    864          .LONG   ^B00001000000000000000000000000000; THE LOWER CASE LETTERS AREN'T EI
                     042A    865 ; duplicate for the eight bit set
00000000             042A    866          .LONG   0                               ; ALL THE CONTROL CHARACTERS
00000000             042E    867          .LONG   0
00000000             0432    868          .LONG   0
00000000             0436    869          .LONG   0
```

```
                                                B 15
                     043A   871          .SBTTL  VERIFY_ARRAY - Array of definitions for Read verifictaion
                     043A   872 ;
                     043A   873 ;       VERIFICATION ARRAY
                     043A   874 ;
                     043A   875
00000001             043A   876 ALPHA_UPPER = 1
00000002             043A   877 ALPHA_LOWER = 2
00000004             043A   878 NUM09 = 4
00000008             043A   879 PLUS_MINUS = 8
00000010             043A   880 PRINTABLE = 16
00000020             043A   881 CHAR_ALL = 32
                     043A   882 ;
                     043A   883 ;
                     043A   884 VERIFY_ARRAY::
                     043A   885          .REPEAT 32
                     043A   886 .BYTE    CHAR_ALL
                  20 043A   887          .ENDR
                  33 045A   888 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_UPPER!ALPHA_LOWER
                     045B   889          .REPEAT 10
                     045B   890 .BYTE    CHAR_ALL!PRINTABLE
                  30 045B   891          .ENDR
                  38 0465   892 .BYTE    CHAR_ALL!PRINTABLE!PLUS_MINUS
                  30 0466   893 .BYTE    CHAR_ALL!PRINTABLE
                  38 0467   894 .BYTE    CHAR_ALL!PRINTABLE!PLUS_MINUS
                  38 0468   895 .BYTE    CHAR_ALL!PRINTABLE!PLUS_MINUS
                  30 0469   896 .BYTE    CHAR_ALL!PRINTABLE
                     046A   897          .REPEAT 10
                     046A   898 .BYTE    CHAR_ALL!PRINTABLE!NUM09
                  34 046A   899          .ENDR
                     0474   900          .REPEAT 7
                     0474   901 .BYTE    CHAR_ALL!PRINTABLE
                  30 0474   902          .ENDR
                     047B   903          .REPEAT 26
                     047B   904 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_UPPER
                  31 047B   905          .ENDR
                     0495   906          .REPEAT 6
                     0495   907 .BYTE    CHAR_ALL!PRINTABLE
                  30 0495   908          .ENDR
                     049B   909          .REPEAT 26
                     049B   910 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_LOWER
                  32 049B   911          .ENDR
                     04B5   912          .REPEAT 4
                     04B5   913 .BYTE    CHAR_ALL!PRINTABLE
                  30 04B5   914          .ENDR
                  20 04B9   915 .BYTE    CHAR_ALL
                     04BA   916          .REPEAT 32
                     04BA   917 .BYTE    CHAR_ALL
                  20 04BA   918          .ENDR
                  20 04DA   919 .BYTE    CHAR_ALL
                     04DB   920          .REPEAT 3
                     04DB   921 .BYTE    CHAR_ALL!PRINTABLE
                  30 04DB   922          .ENDR
                  20 04DE   923 .BYTE    CHAR_ALL
                  30 04DF   924 .BYTE    CHAR_ALL!PRINTABLE
                  20 04E0   925 .BYTE    CHAR_ALL
                     04E1   926          .REPEAT 5
                     04E1   927 .BYTE    CHAR_ALL!PRINTABLE
```

```
                                                C 15
30  04E1    928          .ENDR
    04E6    929          .REPEAT 4
    04E6    930 .BYTE    CHAR_ALL
20  04E6    931          .ENDR
    04EA    932          .REPEAT 4
    04EA    933 .BYTE    CHAR_ALL!PRINTABLE
30  04EA    934          .ENDR
20  04EE    935 .BYTE    CHAR_ALL
    04EF    936          .REPEAT 3
    04EF    937 .BYTE    CHAR_ALL!PRINTABLE
30  04EF    938          .ENDR
20  04F2    939 .BYTE    CHAR_ALL
    04F3    940          .REPEAT 5
    04F3    941 .BYTE    CHAR_ALL!PRINTABLE
30  04F3    942          .ENDR
20  04F8    943 .BYTE    CHAR_ALL
30  04F9    944 .BYTE    CHAR_ALL!PRINTABLE
    04FA    945          .REPEAT 16
    04FA    946 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_UPPER
31  04FA    947          .ENDR
20  050A    948 .BYTE    CHAR_ALL
    050B    949          .REPEAT 13
    050B    950 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_UPPER
31  050B    951          .ENDR
20  0518    952 .BYTE    CHAR_ALL
30  0519    953 .BYTE    CHAR_ALL!PRINTABLE
    051A    954          .REPEAT 16
    051A    955 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_LOWER
32  051A    956          .ENDR
20  052A    957 .BYTE    CHAR_ALL
    052B    958          .REPEAT 13
    052B    959 .BYTE    CHAR_ALL!PRINTABLE!ALPHA_LOWER
32  052B    960          .ENDR
20  0538    961 .BYTE    CHAR_ALL
20  0539    962 .BYTE    CHAR_ALL
```

```
                                                D 15
                                053A    964          .SBTTL  SPECIAL STRINGS
                                053A    965 ;
                                053A    966 ; MULTI ECHO STRINGS
                                053A    967 ;
                                053A    968 ;*****************************************************************************
                                053A    969 ; ALL OF THE SPECAIL STRINGS MUST BE COUNTED STRINGS (1 BYTE LENGTH COUNT
                                053A    970 ;  FOLLOWED BY DATA
                                053A    971 ;*****************************************************************************
                                053A    972 ;
                                053A    973 ; TAB STRINGS
                                053A    974 ;
20 20 20 20 20 20 20 20 00'     053A    975 TTY$A_TAB::             .ASCIC  /        /
                                08      053A
                                0543    976 ;
                                0543    977 ; BACKSPACE STRING
                                0543    978 ;
08 08 08 08 08 08 08 07         0543    979 TTY$A_DELCRTTAB::       .BYTE   7,TTY$C_BS,TTY$C_BS,TTY$C_BS,TTY$C_BS,TTY$C_BS,-
                                0548    980                                 TTY$C_BS,TTY$C_BS
                08 20 08 03     054B    981 TTY$A_BACKSPACE::       .BYTE   3,TTY$C_BS,TTY$C_BLANK,TTY$C_BS
                   08 20 02     054F    982 TTY$A_SPACEBACK::       .BYTE   2,TTY$C_BLANK,TTY$C_BS
                                0552    983 ;
                                0552    984 ; UTILITY STRINGS
                                0552    985 ;
                                0552    986 ; THE ORGANIZATION OF THIS TABLE IS CRITICAL
                                0552    987 ;
                                0552    988 ;
                      0D 00'    0552    989 TTY$A_CTRLU::   .ASCIC  <TTY$C_CR>
                         01     0552
                      0D 00'    0554    990 TTY$A_CTRLR::   .ASCIC  <TTY$C_CR>
                         01     0554
            0D 2A 54 49 58 45 2A 00'    0556    991 TTY$A_CTRLZ::   .ASCIC  /*EXIT*/<TTY$C_CR>
                         07     0556
                   00000576     055E    992                 .BLKB   32-<.-TTY$A_CTRLZ>
50 55 52 52 45 54 4E 49 2A 0A 0D 00'    0576    993 TTY$A_CTRLY:    .ASCIC  <13><10>/*INTERRUPT*/<13><10>
                     0A 0D 2A 54        0582
                         0F     0576
                   00000596     0586    994                 .BLKB   32-<.-TTY$A_CTRLY>
0D 2A 4C 45 43 4E 41 43 2A 0A 0D 00'    0596    995 TTY$A_CTRLC:    .ASCIC  <13><10>/*CANCEL*/<13><10>
                         0A     05A2
                         0C     0596
                   000005B6     05A3    996                 .BLKB   32-<.-TTY$A_CTRLC>
4F 20 54 55 50 54 55 4F 2A 0A 0D 00'    05B6    997 TTY$A_CTRLO:    .ASCIC  <13><10>/*OUTPUT OFF*/<13><10>
                  0A 0D 2A 46 46        05C2
                         10     05B6
                   000005D6     05C7    998                 .BLKB   32-<.-TTY$A_CTRLO>
2A 4E 4F 20 54 55 50 54 55 4F 2A 00'    05D6    999 TTY$A_OUTON:    .ASCIC  /*OUTPUT ON*/<TTY$C_CR>
                         0D     05E2
                         0C     05D6
                   000005F6     05E3   1000                 .BLKB   32-<.-TTY$A_OUTON>
                                05F6   1001
                                05F6   1002 ;
                                05F6   1003 ;DEC CRT ECHO STRINGS
                                05F6   1004 ;
                                05F6   1005 ; SAVE THE ATTRIBUTES GO INTO REVERSE VIDEO, PRINT THE MESSAGE THEN
                                05F6   1006 ;       RESTORE THE ATTRIBUTES.
                                05F6   1007 ;
                                05F6   1008 TTY$A_CTRLZ_DEC::
```

```
74 69 78 45 20 6D 37 5B 1B 37 1B 00'  05F6  1009          .ASCIC  <TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Exit /-
                                 20   0602
                        6D 5B 1B      0603  1010                  <TTY$C_ESCAPE>/[m/ -
                        0D 38 1B      0606  1011                  <TTY$C_ESCAPE>/8/<TTY$C_CR>
                                 12   05F6
                        0000061E      0609  1012          .BLKB   40-<.-TTY$A_CTRLZ_DEC>
                                      061E  1013 TTY$A_CTRLY_DEC:
6E 49 20 6D 37 5B 1B 37 1B 0A 0D 00'  061E  1014          .ASCIC  <13><10><TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Interrupt /-
           20 74 70 75 72 72 65 74     062A
                        6D 5B 1B      0632  1015                  <TTY$C_ESCAPE>/[m/ -
                  0A 0D 38 1B         0635  1016                  <TTY$C_ESCAPE>/8/<13><10>
                                 1A   061E
                        00000646      0639  1017          .BLKB   40-<.-TTY$A_CTRLY_DEC>
                                      0646  1018 TTY$A_CTRLC_DEC:
61 43 20 6C 37 5B 1B 37 1B 0A 0D 00'  0646  1019          .ASCIC  <13><10><TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Cancel /-
                     20 6C 65 63 6E   0652
                        6D 5B 1B      0657  1020                  <TTY$C_ESCAPE>/[m/ -
                  0A 0D 38 1B         065A  1021                  <TTY$C_ESCAPE>/8/<13><10>
                                 17   0646
                        0000066E      065E  1022          .BLKB   40-<.-TTY$A_CTRLC_DEC>
                                      066E  1023 TTY$A_CTRLO_DEC:
75 4F 20 6D 37 5B 1B 37 1B 0A 0D 00'  066E  1024          .ASCIC  <13><10><TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Output off /-
        20 66 66 6F 20 74 75 70 74    067A
                        6D 5B 1B      0683  1025                  <TTY$C_ESCAPE>/[m/ -
                  0A 0D 38 1B         0686  1026                  <TTY$C_ESCAPE>/8/<13><10>
                                 18   066E
                        00000696      068A  1027          .BLKB   40-<.-TTY$A_CTRLO_DEC>
                                      0696  1028 TTY$A_OUTON_DEC:
70 74 75 4F 20 6D 37 5B 1B 37 1B 00'  0696  1029          .ASCIC  <TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Output on /-
                     20 6E 6F 20 74 75 06A2
                        6D 5B 1B      06A8  1030                  <TTY$C_ESCAPE>/[m/ -
                        0D 38 1B      06AB  1031                  <TTY$C_ESCAPE>/8/<TTY$C_CR>
                                 17   0696
                        000006BE      06AE  1032          .BLKB   40-<.-TTY$A_OUTON_DEC>
                                      068E  1033 ;
                                      068E  1034 ; SEQUENCES FOR TERMINALS THAT SUPPORT REGIS
                                      068E  1035 ;
                                      068E  1036 ; EXIT REGIS THEN PRINT DEC CRT CODES
                                      068E  1037 ;
                                      068E  1038 TTY$A_CTRLY_REG:
                        5C 1B 00'     068E  1039          .ASCIC  <TTY$C_ESCAPE>/\/-
74 6E 49 20 6D 37 5B 1B 37 1B 0A 0D   06C1  1040                  <13><10><TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Interrupt /-
           20 74 70 75 72 72 65 74    06CD
                        6D 5B 1B      06D4  1041                  <TTY$C_ESCAPE>/[m/ -
                  0A 0D 38 1B         06D7  1042                  <TTY$C_ESCAPE>/8/<13><10>
                                 1C   068E
                        000006E6      06DB  1043          .BLKB   40-<.-TTY$A_CTRLY_REG>
                                      06E6  1044 TTY$A_CTRLC_REG:
                        5C 1B 00'     06E6  1045          .ASCIC  <TTY$C_ESCAPE>/\/-
6E 61 43 20 6D 37 5B 1B 37 1B 0A 0D   06E9  1046                  <13><10><TTY$C_ESCAPE>/7/<TTY$C_ESCAPE>/[7m Cancel /-
                     20 6C 65 63      06F5
                        6D 5B 1B      06F9  1047                  <TTY$C_ESCAPE>/[m/ -
                  0A 0D 38 1B         06FC  1048                  <TTY$C_ESCAPE>/8/<13><10>
                                 19   06E6
                        0000070E      0700  1049          .BLKB   40-<.-TTY$A_CTRLC_REG>
                                      070E  1050 TTY$A_DEOL::
20 20 20 20 20 20 20 20 20 20 0D 00'  070E  1051          .ASCIC  <TTY$C_CR>/                     /-
```

```
      20 20 20 20 20 20 20 20 20 20  071A
                                 0D  0724  1052                          <TTY$C_CR>
                                 16  0726
                                     0725  1053 TTY$A_ANSI_UPCEL::
           4B 5B 1B 41 5B 1B 0D 00'  0725  1054                  .ASCIC  <TTY$C_CR><TTY$C_ESCAPE>/[A/<TTY$C_ESCAPE>/[K/
                                 07  0725
                                     072D  1055 TTY$A_ANSI_DEOL::
                 4B 5B 1B 0D 00'     072D  1056                  .ASCIC  <TTY$C_CR><TTY$C_ESCAPE>/[K/
                                 04  072D
                                     0732  1057 TTY$A_ANSIBACKUP::
              44 30 30 30 5B 1B 00'  0732  1058                  .ASCIC  <TTY$C_ESCAPE>/[000D/
                                 06  0732
                                     0739  1059 TTY$A_ANSICEL::
                    4B 5B 1B 00'     0739  1060                  .ASCIC  <TTY$C_ESCAPE>/[K/
                                 03  0739
                                     073D  1061 ;
                                     073D  1062 ; VTAB AND FORM
                                     073D  1063 ;
                    0A 0A 0A 0A 04   073D  1064 TTY$A_VTAB::       .BYTE   4,TTY$C_LF,TTY$C_LF,TTY$C_LF,TTY$C_LF
                                 00  0742  1065 TTY$A_MECHFORM::   .BYTE   0
                 0A 0A 0A 0A 0D 05   0743  1066 TTY$A_FORM::       .BYTE   5,TTY$C_CR,TTY$C_LF,TTY$C_LF,TTY$C_LF,TTY$C_LF
                 0C 0A 0A 0A 0A 05   0749  1067 TTY$A_LONGFORM::   .BYTE   5,TTY$C_LF,TTY$C_LF,TTY$C_LF,TTY$C_LF,TTY$C_FF
                                     074F  1068 ;
                                     074F  1069 ; MAXIMUM POSSIBLE ABSOLUTE SYSTEM TIME.  USED TO KEEP EXESTIMEOUT
                                     074F  1070 ; FROM TIMING OUT READS WITH ZERO SECOND TIMEOUT.
                                     074F  1071 ;
                           7FFFFFFF  074F  1072 TTY$A_MAXTIME:: .LONG   ^X7FFFFFFF
                                     0753  1073 ;
                                     0753  1074
```

```
                        1076          .SBTTL  TERMINAL CLASS DRIVER PROLOGUE TABLE
00000000                1077          .PSECT  $$$105_PROLOGUE
                        1078
                        1079 ;
                        1080 ; CLASS DRIVER DPT
                        1081 ;
                        1082
                        1083 TT$DPT::                                        ; DRIVER START
                        1084          DPTAB   -                              ; DRIVER PROLOGUE TABLE
                        1085                  END=TT_END,-                   ; END OF CLASS DRIVER
                        1086                  FLAGS=DPT$M_NOUNLOAD,-         ; UNLOAD NOT ALLOWED
                        1087                  UCBSIZE=UCB$C_TL_LENGTH,-      ; SIZE OF UCB
                        1088                  ADAPTER=NULL,-                 ; ADAPTER TYPE
                        1089                  NAME=TTDRIVER,-                ; NAME OF DRIVER
                        1090                  VECTOR=CLASS_VECTOR            ; CLASS VECTOR TABLE
                        1091
                        1092          DPT_STORE INIT
                        1093          DPT_STORE UCB,UCB$B_FIPL,B,8           ; FORK IPL
                        1094          DPT_STORE UCB,UCB$L_DEVCHAR,L,<-       ; CHARACTERISTICS
                        1095                        DEV$M_REC!-              ;
                        1096                        DEV$M_AVL!-              ;
                        1097                        DEV$M_IDV!-              ;
                        1098                        DEV$M_ODV!-              ;
                        1099                        DEV$M_TRM!-              ;
                        1100                        DEV$M_CCL>
                        1101          DPT_STORE UCB,UCB$L_DEVCHAR2,L,<-      ; DEVICE CHARACTERISTICS
                        1102                        DEV$M_NNM>               ; PREFIX WITH 'NODE$"
                        1103          DPT_STORE UCB,UCB$B_DEVCLASS,B,DC$_TERM;
                        1104          DPT_STORE UCB,UCB$B_DEVTYPE,B,TT$_UNKNOWN      ; TYPE
                        1105          DPT_STORE UCB,UCB$W_DEVBUFSIZ,aW,TTY$GW_DEFBUF ; BUFFER SIZE
                        1106          DPT_STORE UCB,UCB$L_DEVDEPEND,aL,TTY$GL_DEFCHAR ; DEFAULT CHARACTERS
                        1107          DPT_STORE UCB,UCB$L_DEVDEPND2,aL,TTY$GL_DEFCHAR2; DEFAULT CHARACTERS
                        1108          DPT_STORE UCB,UCB$B_DIPL,B,21                  ; DEVICE IPL
                        1109          DPT_STORE ORB,ORB$B_FLAGS,B,-          ; Protection block flags
                        1110                        <ORB$M_PROT_16>          ; SOGW protection word
                        1111          DPT_STORE ORB,ORB$W_PROT,aW,TTY$GW_PROT ; Default allocation protection
                        1112          DPT_STORE ORB,ORB$L_OWNER,aL,TTY$GL_OWNUIC ; Default owner UIC
                        1113          DPT_STORE DDB,DDB$L_DDT,D,TT$DDT
                        1114
                        1115          DPT_STORE REINIT
                        1116          DPT_STORE CRB,CRB$L_INTD+VEC$L_INITIAL,D,VT$INITIAL  ; CONTROLLER INIT
                        1117          DPT_STORE CRB,CRB$L_INTD+VEC$L_UNITINIT,D,VT$INITLINE; UNIT INIT
                        1118          DPT_STORE END
                        1119
                        1120
                        1121
```

```
                        1123          .SBTTL  DRIVER DISPATCH TABLE AND FUNCTION DECISION TABLE
                        1124 ;
                        1125 ; DRIVER DISPATCH TABLE
                        1126 ;
0000                    1127          DDTAB   TT,-                            ; DRIVER DISPATCH TABLE
0000                    1128                  TTY$STARTIO,-                   ; START IO OPERATION
0000                    1129                  0,-                             ; UNEXPECTED INTERRUPT
0000                    1130                  FUNCTION,-                      ; FUNCTION DECISION TABLE
0000                    1131                  TTY$CANCELIO,-                  ; CANCEL I/O
0000                    1132                  0,-                             ; REGISTER DUMP ROUTINE
0000                    1133                  0,-                             ; SIZE OF DIAGNOSTIC BUFFER
0000                    1134                  0,-                             ; SIZE OF ERROR LOG BUFFER
0000                    1135                  0,-                             ; Unit initialization routine
0000                    1136                  TTY$WRTSTARTIO                  ; Alternate START I/O
078B                    1137
078B                    1138 ;
078B                    1139 ; FUNCTION DECISION TABLE FOR ALL TERMINALS
078B                    1140 ;
078B                    1141 FUNCTION:
078B                    1142          FUNCTAB ,-                              ; LEGAL FUNCTIONS
078B                    1143                  <READLBLK,-
078B                    1144                  WRITELBLK,-
078B                    1145                  READVBLK,-
078B                    1146                  WRITEVBLK,-
078B                    1147                  READPBLK,-
078B                    1148                  WRITEPBLK,-
078B                    1149                  READPROMPT,-
078B                    1150                  TTYREADALL,-
078B                    1151                  TTYREADPALL,-
078B                    1152                  SETMODE,-
078B                    1153                  SETCHAR,-
078B                    1154                  SENSEMODE,-
078B                    1155                  SENSECHAR,-
078B                    1156                  >
0793                    1157          FUNCTAB ,-                              ; BUFFERED I/O FUNCTIONS
0793                    1158                  <READLBLK,-
0793                    1159                  WRITELBLK,-
0793                    1160                  READVBLK,-
0793                    1161                  WRITEVBLK-
0793                    1162                  READPBLK,-
0793                    1163                  READPROMPT,-
0793                    1164                  TTYREADALL,-
0793                    1165                  TTYREADPALL,-
0793                    1166                  WRITEPBLK,-
0793                    1167                  >
0798                    1168          FUNCTAB TTY$FDTREAD,<READLBLK,READVBLK,READPBLK,READPROMPT,-
0798                    1169                                  TTYREADALL,TTYREADPALL>
07A7                    1170          FUNCTAB TTY$FDTWRITE,<WRITELBLK,WRITEVBLK,WRITEPBLK>
07B3                    1171          FUNCTAB TTY$FDTSETM,<SETMODE>
07BF                    1172          FUNCTAB TTY$FDTSETC,<SETCHAR>
07CB                    1173          FUNCTAB TTY$FDTSENSEM,<SENSEMODE>
07D7                    1174          FUNCTAB TTY$FDTSENSEC,<SENSECHAR>
07E3                    1175
```

```
                     07E3  1177
                     07E3  1178 ;       THIS TABLE IS USED FOR COMMUNICATION WITH THE TERMINAL CLASS DRIVER.
                     07E3  1179 ;       IT INITIALLY CONTAINS RELATIVE OFFSETS TO VARIOUS ROUTINES AND
                     07E3  1180 ;       DATA STRUCTURES NEEDED BY TERMINAL PORT DRIVERS. AT DRIVER LOAD
                     07E3  1181 ;       THE RELATIVE OFFSETS ARE RELOCATED TO ACTUAL VIRTUAL ADDRESSES.
                     07E3  1182 ;       THE LIST IS TERMINATED BY A 0 LONGWORD TO SIGNAL THE RELOCATION
                     07E3  1183 ;       ROUTINE WHERE THE LIST TERMINATES.
                     07E3  1184
                     07E3  1185 CLASS_VECTOR:
00000000'            07E3  1186         .LONG   TTY$GETNEXTCHAR -       TT$DPT  ; GET NEXT STRING
00000000'            07E7  1187         .LONG   TTY$PUTNEXTCHAR -       TT$DPT  ; PUT NEXT STRING
00000000'            07EB  1188         .LONG   TTY$SETUP_UCB -         TT$DPT  ; ROUTINE TO INIT UCB
00000000'            07EF  1189         .LONG   PORT_TRANSITION -       TT$DPT  ; ROUTINE TO HANDLE MODEM TRANSITION
00000753'            07F3  1190         .LONG   TT$DDT -                TT$DPT  ; CLASS DRIVER DDT
00000000'            07F7  1191         .LONG   TTY$READERROR -         TT$DPT  ;
00000000'            07FB  1192         .LONG   TTY$CLASS_DISCONNECT -  TT$DPT  ; CLASS DISCONNECT ROUTINE
00000000'            07FF  1193         .LONG   TTY$CLASS_FORK -        TT$DPT  ; CLASS FORK ROUTINE
00000000'            0803  1194         .LONG   TTY$POWERACTION -       TT$DPT  ; CLASS POWERFAIL ACTION ROUTINE
                     0807  1195 ;
                     0807  1196 ; A pointer to tables is included here so that changes to the
                     0807  1197 ; tables can be made from code external to the driver.
                     0807  1198 ;
0000080B'            0807  1199         .LONG   TTY$A_TABLES -          TT$DPT  ; MISCELLANEOUS TABLES
                     080B  1200 ;
                     080B  1201 ;       THIS MARKS THE END OF THE CLASS DRIVER VECTORS.
                     080B  1202 ;       THE VECTORS AFTER THIS ARE USED FOR OTHER PURPOSES WITHIN THE
                     080B  1203 ;       DRIVER. THEY ARE INCLUDED HERE TO TAKE ADVANTAGE OF THE AUTOMATIC
                     080B  1204 ;       RELOCATION THAT TAKES PLACE AT BOOT TIME. BY REPLACING ANY OF
                     080B  1205 ;       THESE FOLLOWING VECTORS, THE TABLES THAT THEY POINT TO CAN BE
                     080B  1206 ;       "SWITCHED" WITHOUT MODIFIATION OF THE DRIVER.
                     080B  1207 ;
                     080B  1208 TTY$A_TABLES:
                     080B  1209 TTY$A_INTECHO::
00000827'            080B  1210         .LONG   INTECHO -               TT$DPT  ; INTERRUPT ECHOS
                     080F  1211 TTY$A_EXITECHO::
00000847'            080F  1212         .LONG   EXITECHO -              TT$DPT  ; EXIT ECHOS
                     0813  1213 TTY$A_CTRLOECHO::
0000084F'            0813  1214         .LONG   CTRLOECHO -             TT$DPT  ; CTRLO ECHOS
                     0817  1215 TTY$A_INPFALL::
00000863'            0817  1216         .LONG   NOFALL -                TT$DPT  ; INPUT FALLBACK TABLE
                     081B  1217 TTY$A_FALLTAB::
000002DA'            081B  1218         .LONG   FALLTAB -               TT$DPT  ; FALLBACK TRANSLATION
                     081F  1219 TTY$A_EXPAN::
00000000'            081F  1220         .LONG   EXPAN -                 TT$DPT  ; EXPANSION LIST FOR BREAK CHARACTEE
                     0823  1221 TTY$A_EXPTAB::
00000000'            0823  1222         .LONG   EXPTAB -                TT$DPT  ; FALLBACK BREAK CHARACTER LIST
                     0827  1223
                     0827  1224 ;       HERE ARE THE DEFAULT TABLES PROVIDED BY TTDRIVER.
                     0827  1225 ;
                     0827  1226 INTECHO:
00000576'            0827  1227         .LONG   TTY$A_CTRLY -           TT$DPT  ; 0
00000596'            082B  1228         .LONG   TTY$A_CTRLC -           TT$DPT  ; 1
000006BE'            082F  1229         .LONG   TTY$A_CTRLY_REG -       TT$DPT  ; 2 (ASSUMES DECCRT)
000006E6'            0833  1230         .LONG   TTY$A_CTRLC_REG -       TT$DPT  ; 3 (ASSUMES DECCRT)
0000061E'            0837  1231         .LONG   TTY$A_CTRLY_DEC -       TT$DPT  ; 4
00000646'            083B  1232         .LONG   TTY$A_CTRLC_DEC -       TT$DPT  ; 5
000006BE'            083F  1233         .LONG   TTY$A_CTRLY_REG -       TT$DPT  ; 6
```

```
                                                J 15
000006E6' 0843  1234                .LONG   TTY$A_CTRLC_REG -       TT$DPT  ; 7
          0847  1235 EXITECHO:
00000556' 0847  1236                .LONG   TTY$A_CTRLZ -           TT$DPT  ;
000005F6' 084B  1237                .LONG   TTY$A_CTRLZ_DEC -       TT$DPT  ;
          084F  1238 CTRLOECHO:
000005B6' 084F  1239                .LONG   TTY$A_CTRLO -           TT$DPT  ;
0000066E' 0853  1240                .LONG   TTY$A_CTRLO_DEC -       TT$DPT  ;
000005D6' 0857  1241                .LONG   TTY$A_OUTON -           TT$DPT  ;
00000696' 085B  1242                .LONG   TTY$A_OUTON_DEC -       TT$DPT  ;
          085F  1243
00000000  085F  1244                .LONG   0                               ; END OF LIST
          0863  1245
          0863  1246 NOFALL:
00000000  0863  1247                .LONG   0
```

```
                        0867  1249
                        0867  1250          .SBTTL  LOGICAL UCB INIT ROUTINES
                        0867  1251 ;
                        0867  1252 ;       THESE ROUTINES SERVE AS THE CONTROLLER AND UNIT INIT
                        0867  1253 ;       ROUTINES WHEN THE TEMPLATE UCB IS CONNECTED VIA SYSGEN.
                        0867  1254 ;       THEY SAVE THE ADDRESS OF THE TEMPLATE DDB AND UCB FOR
                        0867  1255 ;       CLONEING FUTURE LOGICAL TERMINAL UCBS
                        0867  1256 ;
                        0867  1257
                        0867  1258 VT$INITIAL:                                  ; CONTROLLER INIT
00000887'EF   D5        0867  1259          TSTL    VT$DDB                      ; SKIP IF ALREADY SET UP
          07   12        086D  1260          BNEQ    10$
00000887'EF   56   D0   086F  1261          MOVL    R6,VT$DDB                   ; SAVE ADDRESS OF DDB
               05   0876  1262 10$:        RSB
                        0877  1263
                        0877  1264 VT$INITLINE:                                 ; UNIT INIT
0000088B'EF   D5        0877  1265          TSTL    VT$UCB                      ; SKIP IF ALREADY SET UP
          07   12        087D  1266          BNEQ    10$
0000088B'EF   55   D0   087F  1267          MOVL    R5,VT$UCB                   ; SAVE TEMPLATE UCB ADDRESS
               05   0886  1268 10$:        RSB
                        0887  1269
                        0887  1270 VT$DDB::
                00000000  0887  1271          .LONG   0
                        088B  1272 VT$UCB::
                00000000  088B  1273          .LONG   0
                        088F  1274
                        088F  1275
                        088F  1276          .END
```

```
$$                              = 00000100
$$$                             = 00000020 R      05
$$$$                            = 00000146 R      02
$$OP                            = 00000002
ALPHA_LOWER                     = 00000002
ALPHA_UPPER                     = 00000001
ATS_NULL                          ********    X   05
CHAR                            = 00000100
CHAR_ALL                        = 00000020
CLASS_VECTOR                      000007E3 R      02
CRB$L_INTD                      = 00000024
CTRLOECHO                         0000084F R      02
DCS_TERM                          ********    X   05
DDB$L_DDT                       = 0000000C
DEV$M_AVL                         ********    X   05
DEV$M_CCL                         ********    X   05
DEV$M_IDV                         ********    X   05
DEV$M_NNM                         ********    X   05
DEV$M_ODV                         ********    X   05
DEV$M_REC                         ********    X   05
DEV$M_TRM                         ********    X   05
DPT$C_LENGTH                    = 00000038
DPT$C_VERSION                   = 00000004
DPT$INITAB                        00000038 R      05
DPT$M_NOUNLOAD                  = 00000004
DPT$REINITAB                      00000082 R      05
DPT$TAB                           00000000 R      05
DYN$C_CRB                       = 00000005
DYN$C_DDB                       = 00000006
DYN$C_DPT                       = 0000001E
DYN$C_ORB                       = 00000049
DYN$C_UCB                       = 00000010
EXITECHO                          00000847 R      02
EXPAN                             00000000 R      04
EXPTAB                            00000000 R      03
FALLTAB                           000002DA R      02
FUNCTAB_LEN                     = 00000058
FUNCTION                          0000078B R      02
INTECHO                           00000827 R      02
INTERRUPT_KEY                     00000246 RG     02
INTERRUPT_KEY_LEN               = 00000005  G
IO$_READLBLK                    = 00000021
IO$_READPBLK                    = 0000000C
IO$_READPROMPT                  = 00000037
IO$_READVBLK                    = 00000031
IO$_SENSECHAR                   = 0000001B
IO$_SENSEMODE                   = 00000027
IO$_SETCHAR                     = 0000001A
IO$_SETMODE                     = 00000023
IO$_TTYREADALL                  = 0000003A
IO$_TTYREADPALL                 = 0000003B
IO$_VIRTUAL                     = 0000003F
IO$_WRITELBLK                   = 00000020
IO$_WRITEPBLK                   = 0000000B
IO$_WRITEVBLK                   = 00000030
IOC$MNTVER                        ********    X   02
IOC$RETURN                        ********    X   02
MASKH                           = 00000000
MASKL                           = 08000000
NOFALL                            00000863 R      02
NUM09                           = 00000004
ORB$B_FLAGS                     = 0000000B
ORB$L_OWNER                     = 00000000
ORB$M_PROT_16                   = 00000001
ORB$W_PROT                      = 00000018
PLUS_MINUS                      = 00000008
PORT_TRANSITION                   ********    X   02
PRINTABLE                       = 00000010
SLEN                            = 00000001
TT$C_BAUD_110                   = 00000003
TT$C_BAUD_1200                  = 00000008
TT$C_BAUD_150                   = 00000005
TT$C_BAUD_1800                  = 00000009
TT$C_BAUD_19200                 = 00000010
TT$C_BAUD_2400                  = 0000000B
TT$C_BAUD_300                   = 00000006
TT$C_BAUD_3600                  = 0000000C
TT$C_BAUD_4800                  = 0000000D
TT$C_BAUD_600                   = 00000007
TT$C_BAUD_9600                  = 0000000F
TT$DDT                            00000753 RG     02
TT$DPT                            00000000 RG     05
TT$_UNKNOWN                     = 00000000
TTY$AB_600                        00000026 RG     02
TTY$AB_9600                       00000000 RG     02
TTY$A_8BITESC                     0000029A RG     02
TTY$A_ANSIBACKUP                  00000732 RG     02
TTY$A_ANSICEL                     00000739 RG     02
TTY$A_ANSI_DEOL                   0000072D RG     02
TTY$A_ANSI_UPCEL                  00000725 RG     02
TTY$A_BACKSPACE                   0000054B RG     02
TTY$A_CCLIST                      00000046 RG     02
TTY$A_CTRLC                       00000596 R      02
TTY$A_CTRLC_DEC                   00000646 R      02
TTY$A_CTRLC_REG                   000006E6 R      02
TTY$A_CTRLO                       000005B6 R      02
TTY$A_CTRLOECHO                   00000813 RG     02
TTY$A_CTRLO_DEC                   0000066E R      02
TTY$A_CTRLR                       00000554 RG     02
TTY$A_CTRLU                       00000552 RG     02
TTY$A_CTRLY                       00000576 R      02
TTY$A_CTRLY_DEC                   0000061E R      02
TTY$A_CTRLY_REG                   000006BE R      02
TTY$A_CTRLZ                       00000556 RG     02
TTY$A_CTRLZ_DEC                   000005F6 RG     02
TTY$A_DELCRTTAB                   00000543 RG     02
TTY$A_DEOL                        0000070E RG     02
TTY$A_ESCAPE                      00000266 RG     02
TTY$A_ESCINIT                     000002BA RG     02
TTY$A_ESC_OUT                     0000028A RG     02
TTY$A_EXITECHO                    0000080F RG     02
TTY$A_EXPAN                       0000081F RG     02
TTY$A_EXPTAB                      00000823 RG     02
TTY$A_FALLTAB                     0000081B RG     02
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TTY$A_FCNTKN                    0000024B RG    02
TTY$A_FORM                      00000743 RG    02
TTY$A_INPFALL                   00000817 RG    02
TTY$A_INTECHO                   0000080B RG    02
TTY$A_LONGFORM                  00000749 RG    02
TTY$A_MAXTIME                   0000074F RG    02
TTY$A_MECHFORM                  00000742 RG    02
TTY$A_OUTON                     000005D6 R     02
TTY$A_OUTON_DEC                 00000696 R     02
TTY$A_PREFIX                    0000041A RG    02
TTY$A_SPACEBACK                 0000054F RG    02
TTY$A_STANDARD                  000003DA RG    02
TTY$A_TAB                       0000053A RG    02
TTY$A_TABLES                    0000080B R     02
TTY$A_TYPE                      00000146 RG    02
TTY$A_VTAB                      0000073D RG    02
TTY$A_WORDTERM                  000003FA RG    02
TTY$CANCELIO                    ********   X   02
TTY$CLASS_DISCONNECT            ********   X   02
TTY$CLASS_FORK                  ********   X   02
TTY$C_BLANK                   = 00000020
TTY$C_BS                      = 00000008
TTY$C_CR                      = 0000000D
TTY$C_CSI                     = 0000009B
TTY$C_CTRLA                   = 00000001
TTY$C_CTRLB                   = 00000002
TTY$C_CTRLD                   = 00000004
TTY$C_CTRLE                   = 00000005
TTY$C_CTRLF                   = 00000006
TTY$C_CTRLR                   = 00000012
TTY$C_CTRLU                   = 00000015
TTY$C_CTRLV                   = 00000016
TTY$C_CTRLZ                   = 0000001A
TTY$C_DELETE                  = 0000007F
TTY$C_ESCAPE                  = 0000001B
TTY$C_FF                      = 0000000C
TTY$C_LF                      = 0000000A
TTY$C_LOWESC1                 = 0000007D
TTY$C_LOWESC2                 = 0000007E
TTY$C_SS2                     = 0000008E
TTY$C_SS3                     = 0000008F
TTY$C_TAB                     = 00000009
TTY$FDTREAD                     ********   X   02
TTY$FDTSENSEC                   ********   X   02
TTY$FDTSENSEM                   ********   X   02
TTY$FDTSETC                     ********   X   02
TTY$FDTSETM                     ********   X   02
TTY$FDTWRITE                    ********   X   02
TTY$GETNEXTCHAR                 ********   X   02
TTY$GL_DEFCHAR                  ********   X   05
TTY$GL_DEFCHAR2                 ********   X   05
TTY$GL_OWNUIC                   ********   X   05
TTY$GW_DEFBUF                   ********   X   05
TTY$GW_PROT                     ********   X   05
TTY$K_CSI                     = 00000015   G
TTY$K_ET_BACK_CHAR            = 00000005
TTY$K_ET_CTRLR                = 00000002
TTY$K_ET_CTRLU                = 00000001
TTY$K_ET_DELEFT               = 00000003
TTY$K_ET_DELETE_WORD          = 00000009
TTY$K_ET_ESCAPE               = 00000004
TTY$K_ET_FORWARD_CHAR         = 00000006
TTY$K_ET_MOVE_BOL             = 00000008
TTY$K_ET_MOVE_EOL             = 00000007
TTY$K_ET_QUOTING              = 0000000A
TTY$K_ET_RECALL               = 0000000B
TTY$K_ET_TERMINATE            = 0000000E
TTY$K_ET_TOGGEL               = 0000000C
TTY$K_ET_UNUSED               = 0000000D
TTY$K_MAXESCTKN               = 0000001B   G
TTY$K_SS2                     = 0000000F   G
TTY$K_SS3                     = 00000018   G
TTY$M_CH_CTRL                 = 00000020
TTY$M_CH_CTRL2                = 00000080
TTY$M_CH_CTRL3                = 00000040
TTY$M_CH_LOWER                = 00000008
TTY$M_CH_SPEC                 = 00000010
TTY$POWERACTION                 ********   X   02
TTY$PUTNEXTCHAR                 ********   X   02
TTY$READERROR                   ********   X   02
TTY$SETUP_UCB                   ********   X   02
TTY$STARTIO                     ********   X   02
TTY$WRTSTARTIO                  ********   X   02
TT_END                        = 00000060 R     03
UCB$B_DEVCLASS                = 00000040
UCB$B_DEVTYPE                 = 00000041
UCB$B_DIPL                    = 0000005E
UCB$B_FIPL                    = 0000000B
UCB$C_TL_LENGTH               = 000000B0
UCB$L_DEVCHAR                 = 00000038
UCB$L_DEVCHAR2                = 0000003C
UCB$L_DEVDEPEND               = 00000044
UCB$L_DEVDEPND2               = 00000048
UCB$W_DEVBUFSIZ               = 00000042
VEC$L_INITIAL                 = 0000000C
VEC$L_UNITINIT                = 00000018
VERIFY_ARRAY                    0000043A RG    02
VT$DDB                          00000887 RG    02
VT$INITIAL                      00000867 R     02
VT$INITLINE                     00000877 R     02
VT$UCB                          0000088B RG    02
XYCONTROL                     = 00000008
XYCTRL2                       = 00000003
XYCTRL3                       = 0000002F
XYLOWER                       = 0000001D
XYSPEC                        = 00000007
Y                             = 00000000
```

## Psect synopsis

| PSECT name | Allocation | PSECT No. | Attributes |
|---|---|---|---|
| . ABS . | 00000000 ( 0.) | 00 ( 0.) | NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE |
| $ABS$ | 00000000 ( 0.) | 01 ( 1.) | NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE |
| $$$115_DRIVER | 0000088F ( 2191.) | 02 ( 2.) | NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC LONG |
| $$$115_TTDRVR_EXPTAB | 00000060 ( 96.) | 03 ( 3.) | NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE |
| $$$115_TTDRVR_EXPAN | 00000000 ( 0.) | 04 ( 4.) | NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE |
| $$$105_PROLOGUE | 0000008D ( 141.) | 05 ( 5.) | NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE |

## Performance indicators

| Phase | Page faults | CPU Time | Elapsed Time |
|---|---|---|---|
| Initialization | 29 | 00:00:00.03 | 00:00:02.46 |
| Command processing | 118 | 00:00:00.38 | 00:00:02.72 |
| Pass 1 | 667 | 00:00:24.74 | 00:01:30.78 |
| Symbol table sort | 0 | 00:00:01.98 | 00:00:08.88 |
| Pass 2 | 223 | 00:00:05.31 | 00:00:20.77 |
| Symbol table output | 26 | 00:00:00.12 | 00:00:01.36 |
| Psect synopsis output | 3 | 00:00:00.02 | 00:00:00.02 |
| Cross-reference output | 0 | 00:00:00.00 | 00:00:00.00 |
| Assembler run totals | 1068 | 00:00:32.58 | 00:02:06.99 |

The working set limit was 2100 pages.
207939 bytes (407 pages) of virtual memory were used to buffer the intermediate code.
There were 100 pages of symbol table space allocated to hold 1847 non-local and 7 local symbols.
1276 source lines were read in Pass 1, producing 28 object records in Pass 2.
41 pages of virtual memory were used to define 38 macros.

## Macro library statistics

| Macro library name | Macros defined |
|---|---|
| _$255$DUA28:[SYS.OBJ]LIB.MLB;1 | 22 |
| _$255$DUA28:[SYSLIB]STARLET.MLB;2 | 6 |
| TOTALS (all libraries) | 28 |

2031 GETS were required to define 28 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:TTYDRVDAT/OBJ=OBJ$:TTYDRVDAT MSRC$:TTYDRVDAT/UPDATE=(ENH$:TTYDRVDAT)+EXECML$/LIB